

Filed: September 10, 2001

Applicants: Janet A. Warrington et al.
USSN: 09/950,016 Filed: September 10,
Atty.: John P. Iwanicki, Reg. No. 34,628
BANNER & WITCOFF, LTD. (617) 720-9600
28 State Street, 28th Floor, Boston, MA 02109
Attorney Docket No. 03848-00093 SHEET 1 OF 21

	Case 5
lification	
rounds of T7 amp	Case 4
LCM, RNA isolation and amount of cDNA after 2 rounds of T7 amplification	Case 3
isolation and amo	Case 2
1A LCM, RNA	Case 1
Figure	

	Case 1	te 1	Cas	Case 2	Cas	Case 3	Case 4	ie 4	Ca	Case 5
	Normal	Cancer								
Number of LCM shots	48,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Approx # of cells	200,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000
Approx amt of RNA used for T7 amp	100ng	75ng	100ng	120ng	100ng	115ng	100ng	100ng	100ng	100ng
ds-cDNA amt after 2 rounds of T7 amp	8.75µg	5.88µg	1.56µg	6.88µg	2.5µg	2.97µg	23.5µg	6.0µд	17.74µg	23.13µg

Amount of ds-cDNA after 2 rounds of T7 amplification is dependent on the quality of the LCM-generated RNA from the normal and tumor tissues

Percent transcripts detected in normal and tumor tissues Figure 1B

	Cas	se 1	Cas	Case 2	Cas	Case 3	Cas	Case 4	Cas	Case 5
	Normal	Cancer	Normal Cancer	Cancer	Normal	Vormal Cancer	Normal	Normal Cancer	Normal Cancer	Cancer
% Genes										
detected	25.8	30.3	30.3	33.0	29.4	30.3	35.3	35.8	40.3	40.2

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cases
5/2
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changed in 5/5 c
expression
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39 G
Figure 2A:

25.1 Yes q3.2 Yes q13.4 Yes q13.4 Yes 2.3 Yes 4 Yes 1.1 Yes		**************************************	<u>Chromosome</u> I ocalization	Oral Cancer Association	References
se in nort Spanse position of ps3-responsive gene 2 Zpter-p25.1 Yes Secreted protein, acidic, cysteine-rich, osteonectin 5631.3-q32 Yes Secreted protein, acidic, cysteine-rich, osteonectin 19q13.3-q13.4 Yes Ferritin, light polypeptide 9q21-q22 Yes Cathepsin L 9q21-q22 Yes Adarix, metalloprofeinase 1 (intersitial collagenase) 11q22.3 Yes Fibronectin 1 21q22.23 Yes Fibronectin 1 2 q34 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin AB alpha polypeptide) 7q22.1 Yes Superoxide dismutase 2, mitochondrial 6q25.3 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Superoxide dismutase 2, mitochondrial 6g25.3 Yes Fibrillin 1 (Marfan Syndrome) Adara (melanoma growth stimulating activity, alpha) 4q21 Yes Zinc finger protein 273 Zinc finger protein 273 Republic florages 2, cytoplasmic Bp21-p12 Yes Epoxide hydrolase 2, cytoplasmic Republic hydrolase					
P63-responsive gene 2	Increase in Tumor		,		
Secreted protein, acidic, cysteine-rich, osteonectin 5q31.3-q32 Yes Ferritin, light polypeptide 19q13.3-q13.4 Yes Cathrepsin L 9q21-q22 Yes Proteoglycan 1, secretory granule 10q22.1 Yes Matrix metalloproteinase 1 (interstitial collagenase) 11q22.3 Yes ST4 oncofetal trophoblast glycoprotein 6 Yes Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Yes Fibronectin 1 2q34 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Vascular cell adhesion molecule 1 1p32-p31 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Vascular cell adhesion molecule 1 1p32-p31 Yes Superoxide dismutase 2, mitochondrial 1f6q21.1 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 15q21.1 Yes Fibrillin 1 (Marfan Syndrome) Fibrillin 1 (Warfan Syndrome) Yes Yes Epoxide hydrolase 2, cytop	D86983	p53-responsive gene 2	2pter-p25.1	Yes	(Yeudall et al., 1997)
Ferritin, light polypeptide 19q13.3-q13.4 Yes Cathepsin L 9q21-q22 Yes Proteoglycan I, secretory granule 10q22.1 Yes Matrix metalloproteinase I (inferstitial collagenase) 11q22.3 Yes 5T4 oncofieal trophoblast glycoprotein 6 Yes Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Yes Fibronactin 1 2q34 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7q22.1 Yes Human alpha-1 collagen type I gene, 6q25.3 Yes Superoxide dismutase 2, mitochondrial 6q25.3 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 15q21.1 Yes Fibrillin 1 (Marfan Syndrome) 15q21.1 Yes Rochondrial 1 (ubiquitous) 15q21.1 Yes Sinc finger protein 273 Repoxide hydrolase 2, cytoplasmic 8p21-p12 Yes Placential protein 11 (serine proteinase) 12q13.1 Yes Placential protein 11 (serine proteinase) 7p11.4-p11.3	J03040	13	5q31.3-q32	Yes	(Porte et al., 1998)
Cathepsin L 9q21-q22 Yes Proteoglycan 1, secretory granule 10q22.1 Yes Matrix metalloproteinase 1 (interstitial collagenase) 11q22.3 Yes 55T4 oncofetal trophoblast glycoprotein 6 7 Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Yes Fibronectin 1 2q32.1 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin AB alpha polypeptide) 7p15-p13 Yes Human alpha-1 collagen type I gene, 6q25.3 Yes Superoxide dismutase 2, mitochondrial 6q25.3 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Fibrillin 1 (Marfan Syndrome) Name N/A Yes Creatine kinase, mitochondrial 1 (ubiquitous) 6p21.1 Yes Epoxide hydrolase 2, cytoplasmic 6p21.1 Yes Epoxide hydrolase 2, cytoplasmic 7p11.4-p11.3 Yes	M11147	Ferritin, light polypeptide	19q13.3-q13.4	Yes	(Kimura et al., 2000)
Proteoglycan 1, secretory granule 10q22.1 Yes Matrix metalloproteinase 1 (interstitial collagenase) 11q22.3 Yes 5T4 oncofetal trophoblast glycoprotein 6 P Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Yes Fibronectin 1 2q3.4 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Vascular cell adhesion molecule 1 N/A N/A Yes Human alpha-1 collagen type I gene, 6RO1 6RO2 N/A Yes Superoxide dismutase 2, mitochondrial Aq21 Yes Yes Fibrillin 1 (Marfan Syndrome) Infection (melanoma growth stimulating activity, alpha) Aq21 Yes Zinc finger protein 273 Creatine kinase, mitochondrial 1 (ubiquitous) Repoxide hydrolase 2, cytoplasmic Repoxide hydrolase 2, cytoplasmic Yes Epoxide hydrolase 2, cytoplasmic Repoxide hydrolase B Xp11.4-p11.3 Xp11.4-p11.3	X12451	Cathepsin L	9q21-q22	Yes	(Kawamata et al., 1997; Strojan et al., 2000)
Matrix metalloproteinase 1 (interstitial collagenase) 11q22.3 Yes 5T4 oncofetal trophoblast glycoprotein 6 P Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Yes Fibronectin 1 2q34 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Vascular cell adhesion molecule 1 N/A N/A Human alpha-1 collagen type I gene, N/A Yes Superoxide dismutase 2, mitochondrial 6q25.3 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Fibrillin 1 (Marfan Syndrome) Name N/A Yes GRO2 oncogene (melanoma growth stimulating activity, alpha) 15q21.1 Yes Fibrillin 1 (Marfan Syndrome) Name N/A Yes Creatine kinase, mitochondrial 1 (ubiquitous) 15q15 Yes Epoxide hydrolase 2, cytoplasmic Bp21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 Yes Monoamine oxidase B <td< td=""><td>X17042</td><td></td><td>10q22.1</td><td></td><td></td></td<>	X17042		10q22.1		
5T4 oncofetal trophoblast glycoprotein 6 Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Fibronectin 1 2q34 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Vascular cell adhesion molecule 1 N/A Yes Human alpha-1 collagen type I gene, Superoxide dismutase 2, mitochondrial Aq21 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Fibrillin 1 (Marfan Syndrome) 15q21.1 Yes Fibrillin 1 (Marfan Syndrome) NAme N/A Yes Creatine kinase, mitochondrial 1 (ubiquitous) 15q15 Yes Epoxide hydrolase 2, cytoplasmic Bp21-p12 Yes Placental protein 11 (serine proteinase) Xp11.4-p11.3 Monoamine oxidase B	X54925	Matrix metalloproteinase 1 (interstitial collagenase)	11q22.3	Yes	(Magary et al., 2000)
Runt-related transcription factor 1 (acute myeloid leukemia 1) 21q22.23 Yes Fibronectin 1 2q34 Yes Collagen, type I, alpha 2 7q22.1 Yes Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Yes Vascular cell adhesion molecule 1 1p32-p31 Yes Human alpha-1 collagen type I gene, 6q25.3 Yes Superoxide dismutase 2, mitochondrial 4q21 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 15q21.1 Yes Fibrillin 1 (Marfan Syndrome) Name N/A Yes Zinc finger protein 273 Rich fibquitous) 15q21.1 Yes Creatine kinase, mitochondrial 1 (ubiquitous) Rp21-p12 Yes Epoxide hydrolase 2, cytoplasmic Placental protein 11 (serine proteinase) 12q13.1 Monoamine oxidase B Xp11.4-p11.3 Xp11.4-p11.3	Z29083	-	9		
Fibronectin 1	D43968		21q22.23		
Collagen, type I, alpha 2 7q22.1 Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Vascular cell adhesion molecule 1 1p32-p31 Yes Human alpha-1 collagen type I gene, M/A Yes Superoxide dismutase 2, mitochondrial 6q25.3 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Fibrillin 1 (Marfan Syndrome) 15q21.1 Yes Ase in Name N/A Yes Zinc finger protein 273 Tinc finger protein 273 Yes Yes Epoxide hydrolase 2, cytoplasmic 8p21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 Yes Monoamine oxidase B Xp11.4-p11.3 Xp11.4-p11.3	X02761	Fibronectin 1	2q34	Yes	(Mighell et al., 1997)
Inhibin, beta A (activin A, activin AB alpha polypeptide) 7p15-p13 Vascular cell adhesion molecule 1 1p32-p31 Yes Human alpha-1 collagen type I gene, N/A Yes Superoxide dismutase 2, mitochondrial 4q21 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Fibrillin 1 (Marfan Syndrome) 15q21.1 Yes Fibrillin 2 (Marfan Syndrome) Name N/A Yes Rocatine kinase, mitochondrial 1 (ubiquitous) 15q15 Yes Epoxide hydrolase 2, cytoplasmic 8p21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 Ann Monoamine oxidase B Xp11.4-p11.3 Ap11.4-p11.3	274616	Collagen, type I, alpha 2	7q22.1		01
Vascular cell adhesion molecule 1 1p32-p31 Yes Human alpha-1 collagen type I gene, N/A Fibrilia 1 (Marfan Syndrome) Aq21 Yes GRO1 oncogene (melanoma growth stimulating activity, alpha) Aq21 Yes Fibrilia 1 (Marfan Syndrome) 15q21.1 Yes ase in nor N/A N/A Yes Creatine kinase, mitochondrial 1 (ubiquitous) 15q15 Yes Epoxide hydrolase 2, cytoplasmic 8p21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 N/A Monoamine oxidase B Xp11.4-p11.3 Xp11.4-p11.3	X57579	1 -	7p15-p13		
Human alpha-1 collagen type I gene,N/AYesSuperoxide dismutase 2, mitochondrial6q25.3YesGRO1 oncogene (melanoma growth stimulating activity, alpha)4q21YesFibrillin 1 (Marfan Syndrome)15q21.1Yesase in norN/AN/AYesZinc finger protein 273N/AYesCreatine kinase, mitochondrial 1 (ubiquitous)8p21-p12YesEpoxide hydrolase 2, cytoplasmic8p21-p12YesPlacental protein 11 (serine proteinase)Xp11.4-p11.3Monoamine oxidase B	M30257	Vascular cell adhesion molecule 1	1p32-p31	Yes	(Liu et al., 1999)
Superoxide dismutase 2, mitochondrial GRO1 oncogene (melanoma growth stimulating activity, alpha) Fibrillin 1 (Marfan Syndrome) Sase in Name Zinc finger protein 273 Creatine kinase, mitochondrial 1 (ubiquitous) Epoxide hydrolase 2, cytoplasmic Placental protein 11 (serine proteinase) Monoamine oxidase B Superoxide de de25.3 Yes N/A N/A Sp21-p12 Yes Nonoamine oxidase B Yes	M55998	Human alpha-1 collagen type I gene,	N/A		
GRO1 oncogene (melanoma growth stimulating activity, alpha) 4q21 Yes Fibrillin 1 (Marfan Syndrome) I5q21.1 Yes ase in nor Name N/A N/A Zinc finger protein 273 N/A Yes Creatine kinase, mitochondrial 1 (ubiquitous) 15q15 Yes Epoxide hydrolase 2, cytoplasmic 8p21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 Yes Monoamine oxidase B Xp11.4-p11.3	X65965	Superoxide dismutase 2, mitochondrial	6q25.3	Yes	(Kurokawa et al., 1998; Muramatsu et al., 1995)
ase in nor Zinc finger protein 273 N/A N/A Creatine kinase, mitochondrial 1 (ubiquitous) 8p21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 Yes Monoamine oxidase B Xp11.4-p11.3	X54489	GRO1 oncogene (melanoma growth stimulating activity, alpha)	4921	Yes	(Loukinova et al., 2000)
ase in nor Name N/A Zinc finger protein 273 N/A Yes Creatine kinase, mitochondrial 1 (ubiquitous) 15q15 Yes Epoxide hydrolase 2, cytoplasmic 8p21-p12 Yes Placental protein 11 (serine proteinase) 12q13.1 Nonoamine oxidase B	L13923	Fibrillin 1 (Marfan Syndrome)	15q21.1	_	
Zinc finger protein 273N/ACreatine kinase, mitochondrial 1 (ubiquitous)15q15YesEpoxide hydrolase 2, cytoplasmic8p21-p12YesPlacental protein 11 (serine proteinase)12q13.1Monoamine oxidase BXp11.4-p11.3	Decrease in Tumor	Seedle etc. ()	*	0	
Creatine kinase, mitochondrial 1 (ubiquitous)15q15YesEpoxide hydrolase 2, cytoplasmic8p21-p12YesPlacental protein 11 (serine proteinase)12q13.1Monoamine oxidase BXp11.4-p11.3	X78932	Zinc finger protein 273	N/A		
Epoxide hydrolase 2, cytoplasmic8p21-p12YesPlacental protein 11 (serine proteinase)12q13.1Monoamine oxidase BXp11.4-p11.3	J04469	Creatine kinase, mitochondrial 1 (ubiquitous)	15q15	Yes	(Lin & Chen, 1991)
Placental protein 11 (serine proteinase) Monoamine oxidase B	L05779	Epoxide hydrolase 2, cytoplasmic	8p21-p12	Yes	(Janot et al., 1993)
Monoamine oxidase B	M32402	Placental protein 11 (serine proteinase)	12q13.1		
	M69177	Monoamine oxidase B	Xp11.4-p11.3		

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Figure 2A Continued: 39 Genes whose expression changed in 5/5 cases

M98447	Transglutaminase 1 (K polypeptide epidermal type I, protein- lalutamine-gamma-glutamyltransferase)	14q11.2	Yes	(Shin et al., 1994)
U17077	BENE protein	2q13		
U34252	Aldehyde dehydrogenase 9 (gamma-aminobutyraldehyde dehydrogenase, E3 isozyme)	1q22-q23		
Decrease in	Name		*	
Tumor (Cont)				
U46689	Aldehyde dehydrogenase 10 (fatty aldehyde dehydrogenase)	17p11.2		
U67963	Lysophospholipase-like	င		
U83115	Absent in melanoma 1	6q21		
U90902	Human clone 23612	N/A		
X07695	Keratin 4	12q13	Yes	(Suo et al., 1993)
X07696	Keratin 15	17q21	Yes	(Viaene & Baert, 1995)
X76029	Neuromedin U	4q12		
X76180	Sodium channel, nonvoltage-gated 1 alpha	12p13		
X78549	Protein tyrosine kinase 6	20q13.3		
Y09267	Flavin containing monooxygenase 2	1q23-q251		
Y09616	Carboxylesterase 2 (intestine, liver)	16		
Y07909	Epithelial membrane protein 1	12p12.3		
X53296	Interleukin 1 receptor antagonist	2q14.2	Yes	(von Biberstein et al., 1996)
M61855	Cytochrome P450, subfamily IIC (mephenytoin4-hydroxylase), polypeptide 9	10q24	Yes	(Murray et al., 1994)
U18934	TYRO3 protein tyrosine kinase	15q15.1-q21.1		

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Figure 2B: Representative sample of differentially regulated genes

		1
Description/Function	Location	Regulation
		1
Cathepsin-L	9q21-22	Up 5/5
Collagenase/MMP I	11q22.3	Up 5/5
UPA	10q24	Up 5/5
5T4 Oncofetal protein	6q13-14	Up 5/5
Runt-related transcription factor/AML1		Up 5/5
ERF1 transcription factor	20q13.2	Down 4/5
		Up 4/5
		Up 4/5
	9q21.3-22.1	Up 4/5
		Down 5/5
		Down 5/5
		Down 4/5
AIM1 (onco-suppressor)	6q21	Down 4/5
Cytokoratin 4	12013	Down 5/5
		Down 5/5
Transglutaminase 1	14q11.2	Down 5/5
Apoptosis-inhibitor protein	11q22-23	Up 5/5
Neuromedin U	4q12	Down 5/5
Alpha-beta-crystallin/Rosenthal protein	11q22.3-23.1	Down 4/5
ZFP HZF9 (potent repressor)	19p12	Down 5/5
Cyclin G2 (cell cycle regulators)	4q21	Down 4/5
	Runt-related transcription factor/AML1 ERF1 transcription factor Gro-Beta Oncogene Lyn-tyrosine kinase (oncogene LYN) Gas-1 Tumour associated membrane protein (control cell-Cekk interactions & cell proliferation) CEA2 (onco-suppressor) PIM-1-oncogene AIM1 (onco-suppressor) Cytokeratin 4 Cytokeratin 15 Transglutaminase 1 Apoptosis-inhibitor protein Neuromedin U Alpha-beta-crystallin/Rosenthal protein ZFP HZF9 (potent repressor)	Cathepsin-L 9q21-22 Collagenase/MMP I 11q22.3 UPA 10q24 5T4 Oncofetal protein 6q13-14 Runt-related transcription factor 20q13.2 ERF1 transcription factor 20q13.2 Gro-Beta Oncogene 4q12-13 Lyn-tyrosine kinase (oncogene LYN) 8q13 Gas-1 9q21.3-22.1 Tumour associated membrane protein (control cell-Cekk interactions & cell proliferation) 12p12.3 CEA2 (onco-suppressor) 19q13.2 PIM-1-oncogene 6p21.2 AlM1 (onco-suppressor) 6q21 Cytokeratin 4 12q13 Cytokeratin 15 17q21 Transglutaminase 1 14q11.2 Apoptosis-inhibitor protein 11q22-23 Neuromedin U 4q12 Alpha-beta-crystallin/Rosenthal protein 11q22.3-23.1 ZFP HZF9 (potent repressor) 19p12

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Attorney Docket No. 03848-00093 SHEET 5 OF 21

Figure 2C **UP REGULATED GENES**

Probe set	Description	Ave FC	Method*	T-test
X54925	MMP1, type l interstitial collagenase	429	G	0.093
X05232	MMP3, stromelysin-1	177	G	0.047
X57579	Activin β-A subunit	146	G	0.066
U24577	LDL-phospholipase A2	133	G	0.003
X54489	Melanoma growth stimulatory activity	93	G M Gc	0.040
L23808	MMP12	70	G	0.060
X04602	Interleukin BSF-2	59	G	0.256
U20758	Osteopontin, SPP1	47	G	0.224
M21121	T cell-specific protein, RANTES	40	G	0.129
U09278	Fibroblast activation protein	39	G	0.087
X51441	Serum amyloid A, SAA	39	G	0.037
M63438	Immunoglobulin kappa variable 1D-8	35	G	0.071
Z19574	Cytokeratin 17	34	G	0.125
Z49194	Oct-binding factor	28	G Gc	0.081
U28488	Complement component 3a receptor 1	25	G	0.006
V00536	IFN-γ	24	G	0.150
X02761	Fibronectin	21	G	0.115
J03040	Osteonectin / SPARC	20	Gc	0.227
D55696	Cysteine protease	19	Gc	0.022
X52022	Collagen, type VI α3	18	G	0.202
U89942	Lysyl oxidase-related protein	18	Gc G	0.082
M12759	lg J chain	18	G	0.218
L13286	1,25-dihydroxyvitamin D3 24-hydroxylase	e 17	Gc G	0.052
X66867	Max	16	Gc	0.304
J05070	MMP9, type IV collagenase	16	G	0.287
M87789	IGHG3, Ig heavy constant γ 3	16	G	0.102
X54867	NKG2, lectin-like receptor subfamily C	14	G	0.171
M13755	Interferon induced 17KDa/15KDa	13	G	0.052

^{*}G=GeneChip, M=Matlab, Gc=GeneCluster

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SHEET 6 OF 21

Figure 2D **DOWN REGULATED GENES**

Probe set	Description	Ave FC	Method*	T-test
X51420	Tyrosinase-related protein	0.06	M	0.202
X07695	Cytokeratin 4C	0.06	GM	0.002
U09578	MAPKAP kinase	0.08	M	0.238
Z84721	Globin, α and ζ	0.08	M	0.036
M32402	Placental protein, PP11	0.10	G M	0.005
HG3884-HT4154	Homeotic Protein, Hpx-42	0.10	G	0.006
U85707	Leukemogenic homolog protein, MEIS1	0.10	G M	0.008
X76180	Ung amiloride sensitive Na+ channel protein	0.10	G M	0.011
Y09267	Flavin-containing monooxygenase 2	0.10	M	0.036
X95240	Cysteine-rich secretory protein 3	0.10	М	0.141
X07696	Cytokeratin 15	0.11	GM	0.004
X76223	MAL, t cell differentiation protein	0.11	GM	0.041
U49114	Prohormone convertase 5 precursor, PC5	0.14	M	0.102
D13643	KIAA0018	0.14	Gc	0.001
U65932	Extracellular matrix protein 1, ECM1	0.14	M	0.048
M25079	Sickle cell β-globin	0.14	M	0.085
M83186	Cytochrome c oxidase subunit VIIa	0.14	M	0.036
D00408	Cytochrome P-450, fetal liver	0.14	G M Gc	0.022
M27160	Tyrosinase, TYR	0.15	M	0.085
X87159	Epithelial amiloride-sensitive Na+ channel, β	0.15	G	0.003
Y07909	Progression Associated Protein	0.15	M	0.004
X76029	Neuromedin U	0.15	G M Gc	0.000
D29958	KIAA0116	0.15	Gc	0.050
U06643	Keratinocyte lectin 14, HKL-14	0.15	M Gc	0.001
X53296	IRAP	0.16	GM	0.012
U15932	Protein phosphatase	0.16	M	0.045
HG4236-HT4506	Zinc Finger Protein, Znf138	0.16	G	0.079
D80010	KIAA0188	0.17	M	0.000

^{*} G = GeneChip, M = Matlab, Gc = GeneCluster

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Attorney Docket No. 03848-00093 SHEET 7 OF 21

Comparison of percent increases for 3 upregulated genes measured by GeneChip and Real-Time Quantitative PCR Data*

	Samples	1	2	3	4	5
Accession		GC/RTQPCR	GC/RTQPCR	GC/RTQPCR GC/RTQPCR GC/RTQPCR GC/RTQPCR	GC/RTQPCR	GC/RTQPCR
X54925	X54925 Collagenase	4300 / 1100	22900 / 36800	800 / 2200	49500 / 130000	7800 / 16500
X12451	X12451 Pro-cathepsin L	300 / 800	570 / 700	180 / 300	300 / 2800	300 / 400
X02419	UPA	400 / 100	440 / 800	150/3200	400 / 980	425 / 900

RT-QPCR= real time quantitative PCR GC= Gene expression data

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(617) 720-9600 SHEET 8 OF 21

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Expression measured by GeneChip microarray and Comparison of Differential Collagenase Gene RTQPCR

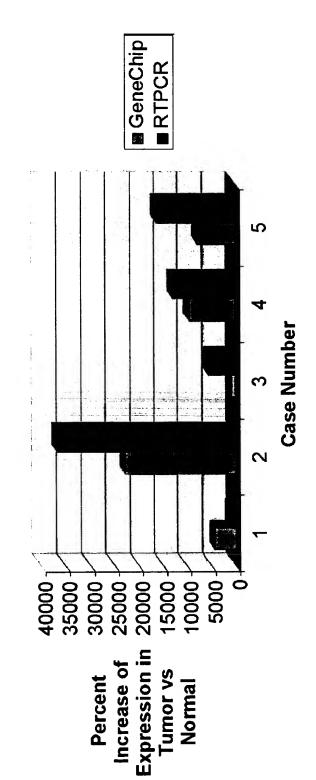


Figure 4

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BANNER & WITCOFF, LTD. (617) 720-9600
28 State Street, 28th Floor, Boston, MA 02109
Attorney Docket No. 03848-00093 SHEET 9 OF 21

Filed: September 10, 2001

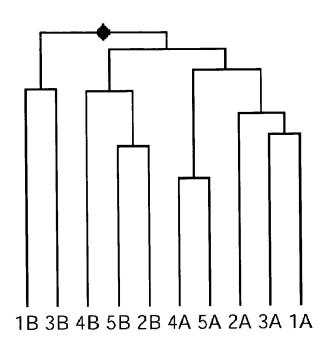


Figure 5

Figure 6: Differentially Expressed Genes Identified by All 3 Methods

Filed: September 10, 2001

Applicants: Janet A. Warrington et al.
USSN: 09/950,016 Filed: September 10,
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Attorney Docket No. 03848-00093 SHEET 10 OF 21

Accession	Name	Expression Up/Down	Chromosome	Oral Cancer	References
Number		in Oral Cancer	Localization	Association	
D00408	Cytochrome P450, subfamily IIIA polypeptide 7	See Comment 1	Q		
D13666	Osteoblast specific factor 2	Up in Cancer	13		
D42047	KIAA0089	Down in Cancer	8		
D43968	Runt-related transcription factor 1	Up in Cancer	21q22.3		
D84276	CD38 antigen (p45)	Up in Cancer	4p15		
HG3494-HT3688	HG3494-HT3688 Nuclear Protein IL6	Up in Cancer	QN	Yes	(Ondrey et al., 1999)
J03258	Vitamin D receptor	Down in Cancer	12q12-q14	Yes	(Lotan, 1997)
J03473	ADP-ribosyltransferase	Up in Cancer	1q41-q42		
903909	Interferon, gamma inducible protein 30	Up in Cancer	19p13.1		
J04080	Complement component 1, s subcomponent	Up in Cancer	12p13		
M14200	Diazepam binding inhibitor	Down in Cancer	2q12-q21		
M15661	Ribosomal protein L36a	Down in Cancer	14		
M34309	v-erb-b2 avian erythroblastic leukemia viral oncogene homolog3	Down in Cancer	12q13	Yes	(Shintani et al., 1995)
M69177	Monoamine oxidase B	Down in Cancer	Xp11.4-p11.3		
M81182	ATP-binding cassette, subfamily D	Down in Cancer	1p22-p21		
S45630	Crystallin, alpha B	Down in Cancer	11q22.3-q23.1		
U18934	TYRO3 protein tyrosine kinase	Down in Cancer	15q15.1-q21.1		
U34252	Aldehyde dehydrogenase 9	Down in Cancer	1q22-q23		
U46689	Aldehyde dehydrogenase 10	Down in Cancer	17p11.2		
U56814	Deoxyribonuclease I-like 3	Down in Cancer	3p21.1-p14.3		
X12451	Cathepsin L	Up in Cancer	9q21-q22	Yes	(Kawamata et al., 1997; Strojan et al., 2000)
X54489	GRO1 oncogene (MGSA)	Up in Cancer	4q21	Yes	(Loukinova et al., 2000)
X76029	Neuromedin U	Down in Cancer	4q12		
X78932	Zinc finger protein 273	Down in Cancer	QN		
X87241	FAT tumor suppressor	Up in Cancer	4q34-q35		
Y00815	Protein tyrosine phosphatase, receptor, type, F	Down in Cancer	1q34	Yes	
Z29083	5T4 oncofetal trophoblast glycoprotein	Up in Cancer	9		

AB000114 at

(617) 720-9600

SHEET 11 OF 21 Attorney Docket No. 03848-00093

"AF008445, class A, 20 probes, 20 in AF008445 895-1387, Homo sapiens phospholipid scramblase mRNA, complete cds. /gb=AF008445 /ntype=RNA" "D00003, class B, 12 probes, 12 in D00003 1681-1981, Human liver cytochrome P-450 mRNA, complete cds, Human liver cytochrome P-450 mRNA, AC002115 cds1 at AC002115, class A, 20 probes, 16 in AC002115mRNA#2 3349-7559: 4 not in GB record, COX6B gene (COXG) extracted from Human DNA from overlapping chromosome 19 cosmids R31396, F25451, and R31076 containing COX6B and UPKA, genomic sequence, COX6B gene (COXG) e" "AB000115, class A, 20 probes, 20 in AB000115 1469-1973, Human mRNA, complete cds" AF008445 at D00003_s_at complete cds"

"AB000114, class A, 20 probes, 20 in AB000114 1818-2208, Human mRNA for osteomodulin, complete cds"

"D00408, class B, 11 probes, 11 in D00408 1373-1921, Human fetal liver cytochrome P-450 (P-450 HFLa), complete cds, Human fetal liver cytochrome P-450 complete cds" (P-450 HFLa), D00408 s at

"D11151, class A, 20 probes, 20 in D11151exon 1936-2434, Human DNA for endothelin-A receptor, 5' flanking region and" "D12775, class A, 20 probes, 20 in D12775 3124-3662, Human mRNA for erythrocyte-specific AMP deaminase, complete cds" D12775_s_at D13644_at D11151 at

"D13644, class A, 20 probes, 20 in D13664 4603-3072, Human mRNA for KIAA0019 gene, complete cds"
"D13666, class A, 20 probes, 20 in D13666 2630-3072, Human mRNA for GC-Box binding protein BTEB2, complete cds"
"D14520, class A, 20 probes, 20 in D14520 718-1258, Human mRNA for GC-Box binding protein BTEB2, complete cds"
"D14658, class A, 20 probes, 20 in D14658 859-1285, Human mRNA for KIAA0102 gene, complete cds"
"D16217, class A, 20 probes, 20 in D16217 1904-2414, Human mRNA for GB-cadherin-2, complete cds"
"D21255, class A, 20 probes, 20 in D21255 3362-3812, Human mRNA for KIAA0006 gene, partial cds"
"D25304, class A, 20 probes, 20 in D25304 4431-4701, Human mRNA for KIAA0006 gene, partial cds"
"D28915, class A, 20 probes, 16 in D28915cds 1002-1272: 4 in reverseSequence, 114-186, Human gene for hepatitis C-associated microtubular aggregate D13666_s_at D14520 at

D14658 at

D16217_at D21255_at D25304 at

protein p44" D28915 at D31883_at

"D31883, class A, 20 probes, 20 in D31887 4050-4512, Human mRNA for KIAA0062 gene, complete cds"

"D31887, class A, 20 probes, 20 in D31887 4050-4512, Human mRNA for KIAA0062 gene, partial cds"

"D32129, class A, 20 probes, 20 in D32129 920-1425, Human mRNA for HLA class-I (HLA-A26) heavy chain, complete cds (clone cMIY-1)"

"D38551, class A, 20 probes, 20 in D38551 3082-3592, Human mRNA for KIAA0089 gene, complete cds"

"D42047, class A, 20 probes, 20 in D42047 3472-3970, Human mRNA for KIAA0089 gene, partial cds"

"D42073, class A, 20 probes, 20 in D42073 1551-2049, Human mRNA for reticulocalbin, complete cds" D31887_at D32129_f at D38551_at

"D43636, class A, 20 probes, 20 in D43636 3576-4080, Human mRNA for KIAA0096 gene, partial cds" D42047_at D42073_at D43636 at

"D43682, class A, 20 probes, 20 in D43682 1584-2115, Human mRNA for very-long-chain acyl-CoA dehydrogenase VLCAD), complete cds" D43682 s at

D43968 at

"D43968, class A, 20 probes, 20 in D43968 6790-7222, Human AML1 mRNA for AML1b protein (alternatively spliced product), complete cds" "D49387, class A, 20 probes, 20 in D49387 401-917, Human mRNA for NADP dependent leukotriene b4 12-hydroxydehydrogenase, partial cds. /gb=D49387 'ntype=RNA D49387 at

"D49489, class A; 20 probes, 20 in D49489 1267-1759, Human mRNA for protein disulfide isomerase-related protein P5, complete cds"
"D49950, class A, 20 probes, 20 in D49950 495-918, Human Liver mRNA for interferon-gamma inducing factor(IGIF), complete cds"
"D61391, class A, 20 probes, 20 in D61391 1169-1685, Human mRNA for phosphoribosypyrophosphate synthetase-associated protein 39, complete cds"
"D79987, class A, 20 probes, 20 in D79987 6109-6523, Human mRNA for KIAA0165 gene, complete cds" D49489 at 049950_at D61391_at

D79987_at

D79992 at

D79992, class A, 20 probes, 20 in D79992 6597-6897, Human mRNA for KIAA0170 gene, complete cds"

D79990, class A, 20 probes, 20 in D79990 5065-5383, Human mRNA for KIAA0168 gene, complete cds"

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Attorney Docket No. 03848-00093
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'D87258, class A, 20 probes, 20 in D87258 1489-1999, Human cancellous bone osteoblast mRNA for serin protease with IGF-binding motif, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "100277, class C, 20 probes, 20 in all_100277 3607-3724, Human (genomic clones lambda-[SK2-T2, HS578T]; cDNA clones RS-[3,4, 6]) c-Ha-ras1 proto-
                                                                                                                                                          "D84239, class A, 20 probes, 20 in D84239 15949-16339, Human mRNA for IgG Fc binding protein, complete cds" "D84276, class A, 20 probes, 18 in D84276 909-1185: 2 in reverseSequence, 1299-1305, Human mRNA for CD38, complete cds"
                                                                                                                                                                                                                                             "D85181, class A, 20 probes, 20 in D85181 1502-2018, Human mRNA for fungal sterol-C5-desaturase homolog, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "J0287I, class A, 20 probes, 20 in J02871 1475-1931, Human lung cytochrome P450 (IV subfamily) BI protein, complete cds"
"J03040, class A, 20 probes, 20 in J03040 1508-2000, Human SPARC/osteonectin mRNA, complete cds"
"J03077, class A, 20 probes, 20 in J03077 2159-2692, Human co-beta glucosidase (proactivator) mRNA, complete cds"
"J03258, class A, 20 probes, 20 in J03258mRNA 4003-4561, Human vitamin D receptor mRNA, complete cds"
"J03473, class A, 20 probes, 20 in J03473mRNA 3212-3752, Human poly(ADP-ribose) synthetase mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "103827, class A, 20 probes, 20 in 103827 970-1438, Y box binding protein-1 (YB-1) mRNA"
"103909, class A, 20 probes, 20 in 103909 461-995, Human gamma-interferon-inducible protein (IP-30) mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "D87119, class A, 20 probes, 20 in D87119 3614-4160, Human cancellous bone osteoblast mRNA for GS3955, complete cds"
                                                                                                                                                                                                                                                                                        "D85429, class A, 20 probes, 20 in D85429exon#3 813-1347, Human DNA for heat shock protein 40, complete cds"
                                                                          "D80010, class A, 20 probes, 20 in D80010 4778-5198, Human mRNA for KIAA0188 gene, partial cds" "D83018, class A, 20 probes, 20 in D83018 2645-3149, Human mRNA for nel-related protein 2, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                        "D86959, class A, 20 probes, 20 in D86959 5435-5867, Human mRNA for KIAA0204 gene, complete cds" "D86961, class A, 20 probes, 20 in D86961 3678-4188, Human mRNA for KIAA0206 gene, partial cds" "D86974, class A, 20 probes, 20 in D86974 5077-5308, Human mRNA for KIAA0220 gene, partial cds" "D86983, class A, 20 probes, 20 in D86983 5131-5485, Human mRNA for KIAA0230 gene, partial cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'D86985, class A, 20 probes, 20 in D86985 5502-5946, Human mRNA for KIAA0232 gene, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "D87445, class A, 20 probes, 20 in D87445 6334-6892, Human mRNA for KIAA0256 gene, complete cds"
                                                                                                                                                                                                                                                                                                                          "D86956, class A, 20 probes, 20 in D86956 3139-3589, Human mRNA for KIAA0201 gene, complete cds"
                                     'D80000, class A, 20 probes, 20 in D80000 5250-5754, Human mRNA for KIAA0178 gene, partial cds"
                                                                                                                                                                                                                                                                                                                                                                     "D86957, class A, 20 probes, 20 in D86957 3869-4265, Human mRNA for KIAA0202 gene, partial cds"
"D79994, class A, 20 probes, 20 in D79994 4227-4749, Human mRNA for KIAA0172 gene, partial cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "J03474, class A, 20 probes, 20 in J03474cds 3-255, Human serum amyloid A gene, complete cds"
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HG4557-HT4962_at
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J03040_at
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J03258_at
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D86983_at
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J03909_at
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                                                                                                                             D83018 at
                                                                                                                                                                   D84239 at
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     D79994 at
                                             D80000 at
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Janet A. Warrington et al. Filed: September 10, 2001

(617) 720-9600

USSN: 09/950,016 Filed: September Atty.: John P. Iwanicki, Reg. No. 34,628 BANNER & WITCOFF, LTD. 28 State Street, 28th Floor, Boston, MA 02109

FIGURE 7C

BANNER & WITCOFF, LTD. 28 State Street, 28th Floor, Boston, MA 02109 (617) 720-9600 **SHEET 13 OF 21** Attorney Docket No. 03848-00093

"L33842, class A, 20 probes, 20 in L33842mRNA 1213-1639, Homo sapiens (clone FFE-7) type II inosine monophosphate dehydrogenase (IMPDH2) gene, "L08895, class C, 20 probes, 20 in all L08895 3518-4059, Homo sapiens MADS/MEF2-family transcription factor (MEF2C) mRNA, complete cds" "104469, class B, 20 probes, 11 in J04469exon#9 11-173: 9 not in GB record, Human mitochondrial creatine kinase (CKMT) gene, complete cds" "L11931, class A, 20 probes, 20 in L11931 1454-1644, Human cytosolic serine hydroxymethyltransferase (SHMT) mRNA, complete cds"
"L12350, class A, 20 probes, 20 in L12350mRNA 5247-5721, Human thrombospondin 2 (THBS2) mRNA, complete cds"
"L13286, class A, 20 probes, 20 in L13286 2671-3205, Human mitochondrial 1,25-dihydroxyvitamin D3 24-hydroxylase mRNA, complete cds"
"L13329, class A, 20 probes, 20 in L1339exon 434-938, Homo sapiens iduronate-2-sulfatase (IDS) gene"
"L13391, class A, 20 probes, 20 in L13391exon#\$ 265-808, Human helix-loop-helix basic phosphoprotein (G0S8) gene, complete cds" "L24203, class A, 20 probes, 20 in L24203 2423-2891, Homo sapiens ataxia-telangiectasia group D-associated protein mRNA, complete cds" "L06895, class A, 20 probes, 20 in L06895 503-977, Homo sapiens antagonizer of myc transcriptional activity (Mad) mRNA, complete cds" "104093, class A, 20 probes, 20 in 104093 1842-2342, Homo sapiens phenol UDP-glucuronosyltransferase (UDPGT) mRNA, complete cds" "L14837, class A, 20 probes, 20 in L14837 7335-7839, Human tight junction (zonula occludens) protein ZO-1 mRNA, complete cds" "L05187, class C, 20 probes, 20 in all L05187 2284-2339, Homo sapiens small proline-rich protein 1 (SPRR1A) gene, complete cds" J04076, class A, 20 probes, 20 in J04076mRNA 2171-2651, Human early growth response 2 protein (EGR2) mRNA, complete cds" "L05779, class A, 20 probes, 20 in L05779 1535-2069, Human cytosolic epoxide hydrolase mRNA, complete cds" "L06797, class A, 20 probes, 20 in L06797 1041-1599, Human (clone L5) orphan G protein-coupled receptor mRNA, complete cds" "L27560, class A, 20 probes, 20 in L27560mRNA 986-1262, Human insulin-like growth factor binding protein 5 (IGFBP5) mRNA" "L19437, class A, 20 probes, 20 in L19437 857-1211, Human transaldolase mRNA containing transposable element, complete cds" 104162, class A, 20 probes, 20 in 104162mRNA 1406-1940, Human leukocyte IgG receptor (Fc-gamma-R) mRNA, complete cds" "L19605, class A, 20 probes, 20 in L19605 1483-1915, Homo sapiens 56K autoantigen annexin XI gene mRNA, complete cds" "L11370, class A, 20 probes, 20 in L11370 3486-4038, Human protocadherin 42 mRNA, complete cds for abbreviated PC42" "L10373, class A, 20 probes, 20 in L10373 1311-1713, Human (clone CCG-B7) mRNA sequence"
"L10386, class A, 20 probes, 20 in L10386 2036-2498, Homo sapiens transglutaminase E3 (TGASE3) mRNA, complete cds" '104177, class A, 20 probes, 20 in 104177 5773-6133, Human alpha-1 type XI collagen (COL11A1) mRNA, complete cds" "L10717, class A, 20 probes, 20 in L10717 6303-6332, Homo sapiens T cell-specific tyrosine kinase mRNA, complete cds" "L23116, class A, 20 probes, 20 in L23116 3296-3644, Homo sapiens galactocerebrosidase (GALC) mRNA, complete cds" "104080, class A, 20 probes, 20 in J04080mRNA 2136-2604, Human complement component C1r mRNA, complete cds" "L20591, class B, 20 probes, 11 in L20591exon 1-295: 9 not in GB record, Human annexin III (ANX3) gene, alternative" "L32179, class A, 20 probes, 20 in L32179mRNA 1028-1556, Human arylacetamide deacetylase mRNA, complete cds" 104164, class A, 20 probes, 20 in 104164 366-804, Human interferon-inducible protein 27-Sep mRNA, complete cds" "L23808, class A, 20 probes, 20 in L23808 1297-1717, Human metalloproteinase (HME) mRNA, complete cds" "105633, class A, 20 probes, 20 in J05633 2714-3008, Human integrin beta-5 subunit mRNA, complete cds" "K03430, class C, 20 probes, 20 in all K03430 414-853, Human complement C1q B-chain gene" "L00352, class A, 20 probes, 20 in L00352exon 1952-2492, Human low density lipoprotein receptor gene" 104130, class A, 20 probes, 20 in 104130mRNA 87-634, Human activation (Act-2) mRNA, complete cds" "105070, class A, 20 probes, 20 in J05070 1805-2303, Human type IV collagenase mRNA, complete cds" 104056, class A, 20 probes, 20 in 104056 746-1118, Human carbonyl reductase mRNA, complete cds" "L13923, class A, 20 probes, 20 in L13923 9109-9601, Homo sapiens fibrillin mRNA, complete cds" "L19872, class A, 20 probes, 20 in L19872 4756-5059, Human AH-receptor mRNA, complete cds" "L10678, class A, 20 probes, 20 in L10678 1128-1650, Human profilin II mRNA, complete cds" exons 1-13, complete cds" 33842 mal at L05187_at L05779_at L06797_s_at L06895_at J04130_s_at J04162_at 04093_s_at L08895_at $L10717_{at}$ L11931_at L12350_at L13923_at L14837_at L19437_at L19605_at L19872_at J04076_at J04080_at J04164_at J04177_at J04469_at J05070_at _10373_at _13391_at _23808_at .27560 at .32179_at $K03430_at$.00352_at _10386_at .13286 at .13329_at .20591_at .24203 at ,10678 at .23116 at 05633 at

"L33930, class A, 20 probes, 20 in L33930 1504-2054, Homo sapiens CD24 signal transducer mRNA, complete cds and 3' region"

.33930_s_at

'L.76465, class A, 20 probes, 20 in L.76465 1929-2493, Homo sapiens NAD+-dependent 15 hydroxyprostaglandin dehydrogenase (PGDH) mRNA, complete

'L77886, class A, 20 probes, 20 in L77886 5390-5696, Human protein tyrosine phosphatase mRNA, complete cds'

'M11147, class A, 20 probes, 20 in M11147mRNA 251-689, Human ferritin L chain mRNA, complete cds" 'M11718, class A, 20 probes, 20 in M11718 716-1274, Human alpha-2 type V collagen gene, 3' end"

"M12759, class B, 20 probes, 12 in M12759cds 65-335. 8 in reverseSequence, 1020-1260, Human Ig J chain gene" "M13755, class A, 20 probes, 20 in M13755mRNA 33-591, Human interferon-induced 17-kDa/15-kDa protein mRNA, complete cds"

"M14338, class C, 20 probes, 20 in all_M14338 2740-3281, Human mRNA for protein S and intron"
"M15661, class A, 20 probes, 20 in M15661mRNA 3-338, Human ribosomal protein mRNA, complete cds"
"M15841, class A, 20 probes, 20 in M15841 492-945, Human U2 small nuclear RNA-associated B" antigen mRNA, complete cds"

"M17183, class C, 20 probes, 20 in all_M17183 531-752, Human parathyroid hormone-related protein mRNA, complete cds"

"M16038, class A, 20 probes, 20 in M16038 1817-2255, Human lyn mRNA encoding a tyrosine kinase" "M16750, class A, 20 probes, 20 in M16750 1699-2210, Human pim-1 oncogene mRNA, complete cds"

M16750_s_at M17183_s_at

M16038 at

M15661_at M15841_at

M14338 at

"M14200, class A, 20 probes, 20 in M14200mRNA 139-469, Human diazepam binding inhibitor (DBI) mRNA, complete cds"

'M14199, class A, 20 probes, 20 in M14199 2-381, Human laminin receptor (2H5 epitope) mRNA, 5' end"

M14199_s_at M14200_ma1_at

M12759 at

M13755 at

M11147_at M11718 at

'L34657, class A, 20 probes, 20 in L34657mRNA 2757-3219, Homo sapiens platelet/endothelial cell adhesion molecule-1 (PECAM-1) gene"

FIGURE 7D

L34657_at .76465_at L77886 at

Janet A. Warrington et al. Filed: September 10, 2001 Applicants: USSN: 09/950,016

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Attorney Docket No. 03848-00093 (617) 720-9600 **SHEET 14 OF 21**

"M18737, class A, 20 probes, 20 in M18737mRNA 269-815, GJA1P1 gene extracted from Human Hanukah factor serine protease (HuHF) mRNA, complete "M19720, class A, 20 probes, 20 in MI9720mRNA#2 2659-3217, L-myc gene (L-myc protein) extracted from Human L-myc protein gene, complete cds, L-M24351_cds3_s_at "M24351, class A, 20 probes, 20 in M24351exon 248-404, PTHLH gene (parathyroid hormone-like protein A) extracted from Human parathyroid hormone-"M24351, class C, 20 probes, 20 not in GB record, PTHLH gene (parathyroid hormone-like protein A) extracted from Human parathyroid hormone-like "M24194, class A, 20 probes, 20 in M24194mRNA 504-1023, Human MHC protein homologous to chicken B complex protein mRNA, complete cds" "M19645, class C, 20 probes, 20 in all M19645 4941-5470, Human 78 kdalton glucose-regulated protein (GRP78) gene, complete cds" "M18728, class A, 20 probes, 20 in MI8728mRNA 1932-2460, Human nonspecific crossreacting antigen mRNA, complete cds" "M23294, class A, 20 probes, 20 in M23294mRNA#1 1219-1651, Human beta-hexosaminidase beta-subunit (HEXB) gene" "M19888, class A, 20 probes, 20 in M19888 58-580, Human small proline rich protein (sprI) mRNA, clone 128" [M21121, class A, 20 probes, 20 in M21121 958-1129, Human T cell-specific protein (RANTES) mRNA, complete cds" [M21389, class A, 20 probes, 20 in M21389mRNA 1754-2192, Human keratin type II (58 kD) mRNA, complete cds" "M22995, class A, 20 probes, 20 in M22995 1008-1542, Human ras-related protein (Krev-1) mRNA, complete cds" "M19045, class A, 20 probes, 20 in M19045 907-1414, Human lysozyme mRNA, complete cds" "M19481, class C, 20 probes, 14 in all_M19481 278-651: 6 in M19481cds 818-921, Human follistatin gene" protein (PLP) gene, PTHLH gene (parathyroid hormone-like protein A) extracted from Human parathyroid hormone-lik" protein) extracted from Human L-myc protein gene, complete cds" myc gene (L-myc M24351 cds2 at M18737_mal_at M19720 rna2 M19045 f at M21121_at M21389_at M18728 at M19481_at M19645_at M22995_at M23294 at M24194_at M19888 at

"M24486, class A, 20 probes, 20 in M24486mRNA 2110-2684, Human prolyl 4-hydroxylase alpha subunit mRNA, complete cds, clone PA-11" "M24594, class A, 20 probes, 20 in M24594mRNA 1077-1593, Human interferon-inducible 56 Kd protein mRNA, complete cds" "M24902, class A, 20 probes, 20 in M24902mRNA 2694-3018, Human prostatic acid phosphatase mRNA, complete cds" "M25079, class A, 20 probes, 20 in M25079 163-230, Human sickle cell beta-globin mRNA, complete cds" "M26311, class A, 19 probes, 19 in M26311 27-504, Human cystic fibrosis antigen mRNA, complete cds." ike protein (PLP) gene, PTHLH gene (parathyroid hormone-like protein A) extracted from Human parathyroid hormon" M26311_s_at M25079_s_at M24902 at M24594 at

"M27160, class A, 20 probes, 20 in M27160mRNA 1441-1879, Human tyrosinase (TYR) mRNA, complete cds" collagen type IV gene"

M26576 cds2 at

"M26576, class B, 20 probes, 10 in M26576exon 43-289: 10 not in GB record, COL4A1 gene (alpha-1 type IV collagen) extracted from Human alpha-1

"M29540, class A, 20 probes, 20 in M29540 2616-2949, Human carcinoembryonic antigen mRNA (CEA), complete cds" "M30257, class A, 20 probes, 20 in M30257 2214-2709, Human vascular cell adhesion molecule 1 mRNA, complete cds"

M29064, class A, 20 probes, 20 in M29064 1225-1657, Human hnRNP B1 protein mRNA"

FIGURE 7E

M30257 s at

M29540 at

Janet A. Warrington et al. Filed: September 10, 2001 USSN: 09/950,016 Filed: September Atty.: John P. Iwanicki, Reg. No. 34,628

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Attorney Docket No. 03848-00093 (617) 720-9600 **SHEET 15 OF 21**

"M30818, class A, 20 probes, 20 in M30818mRNA 2384-2888, Human interferon-induced cellular resistance mediator protein (MxB) mRNA, complete cds" (M31551, class C, 20 probes, 20 in all_M31551 576-1134, Human urokinase inhibitor (PAI-2) gene" "M34516, class C, 11 probes, 11 in all_M34516 426-469, Human omega light chain protein 14.1 (Ig lambda chain related) gene, Human omega light chain "M35878, class A, 20 probes, 20 in M35878exon#4 1993-2443, Human insulin-like growth factor-binding protein-3 gene, complete cds, clone HL1006d" "M36341, class A, 20 probes, 20 in M36341 912-1458, Human ADP-ribosylation factor 4 (ARF4) mRNA, complete cds" 20 in M77349 2102-2642, Human transforming growth factor-beta induced gene product (BIGH3) mRNA, complete cds" "M33764, class B, 20 probes, 12 in M33764cds 1158-1350: 8 in reverseSequence, 7989-8235, Human ornithine decarboxylase gene, complete cds" "M33882, class A, 20 probes, 20 in M33882 2348-2762, Human p78 protein mRNA, complete cds" "M34057, class A, 20 probes, 20 in M34057 4720-5044, Human transforming growth factor-beta 1 binding protein mRNA, complete cds" "M34309, class A, 20 probes, 20 in M34309 4410-4836, Human epidermal growth factor receptor (HER3) mRNA, complete cds" "M31642, class A, 20 probes, 20 in M31642mRNA 802-1288, Human hypoxanthine phosphoribosyltransferase (HPRT) mRNA, complete cds" "M31994, class C, 20 probes, 20 in all_M31994 117-538, Human cytosolic aldehyde dehydrogenase (ALDH1) gene" "M55942, class A, 20 probes, 20 in M55942mRNA 2310-2802, Human guanylate binding protein isoform I (GBP-2) mRNA, complete cds" "M55998, class C, 20 probes, 20 in all M55998 2-265, Human alpha-1 collagen type I gene, 3' end" "M57710, class A, 20 probes, 20 in M57710 355-865, Human IgE-binding protein (epsilon-BP) mRNA, complete cds" "M57731, class A, 20 probes, 20 in M57731mRNA 617-1032, Human gro-beta mRNA, complete cds" "M59465, class A, 20 probes, 20 in M59465 3867-4341, Human tumor necrosis factor alpha inducible protein A20 mRNA, complete cds" "M61853, class C, 20 probes, 20 in all_M61853 1735-2240, Human cytochrome P4502C18 (CYP2C18) mRNA, clone 6b" "M37721, class A, 20 probes, 20 in M37721 3297-3705, Human peptidylglycine alpha-amidating monooxygenase mRNA, complete cds" "M37766, class A, 20 probes, 20 in M37766 475-955, Human MEM-102 glycoprotein mRNA, complete cds" M81182, class A, 20 probes, 20 in M81182 2831-3314, Homo sapiens peroxisomal 70 kD membrane protein mRNA, complete cds" 'M32011, class A, 20 probes, 20 in M32011mRNA 1623-2157, Human neutrophil oxidase factor (p67-phox) mRNA, complete cds" "M63438, class A, 17 probes, 17 in M63438 794-1195, Human Ig rearranged gamma chain mRNA, V-J-C region and complete cds" "M63835, class A, 20 probes, 20 in M63835mRNA 896-1388, Human IgG Fc receptor I gene" "M64082, class A, 20 probes, 20 in M64082 1605-2055, Human flavin-containing monooxygenase (FMO1) mRNA, complete cds" "M64347, class A, 20 probes, 20 in M64347 3336-3720, Human novel growth factor receptor mRNA, 3' cds" M69181, class A, 20 probes, 20 in M69181 6995-7523, Human nonmuscle myosin heavy chain-B (MYH10) mRNA, partial cds." "M64929, class A, 20 probes, 20 in M64929 1572-2100, Human protein phosphatase 2A alpha subunit mRNA, complete cds" "M76482, class A, 20 probes, 20 in M76482 2855-3251, Human 130-kD pemphigus vulgaris antigen mRNA, complete cds" "M63256, class A, 20 probes, 20 in M63256 1975-2497, Human major Yo paraneoplastic antigen (CDR2) mRNA, 3' end" M31627, class A, 20 probes, 20 in M31627 1191-1725, Human X box binding protein-1 (XBP-1) mRNA, complete cds" "M61855, class C, 20 probes, 20 in all M61855 1535-1714, Human cytochrome P4502C9 (CYP2C9) mRNA, clone 25" "M69177, class A, 20 probes, 20 in M69177 1992-2436, Human monoamine oxidase B (MAOB) mRNA, complete cds" 'M32402, class A, 20 probes, 20 in M32402mRNA 1851-2253, Human placental protein (PP11) mRNA, complete cds" "M61906, class A, 20 probes, 20 in M61906 2813-3326, Human P13-kinase associated p85 mRNA sequence" "M62982, class A, 20 probes, 20 in M62982 1795-2299, Human arachidonate 12-lipoxygenase mRNA, complete cds" 'M34423, class A, 20 probes, 20 in M34423 1856-2312, Human beta-galactosidase (GLB1) mRNA, complete cds" "M65292, class A, 20 probes, 20 in M65292 667-1202, Human factor H homologue mRNA, complete cds" lambda chain related) gene" protein 14.1 (Ig M55998 s at M57731 s at M63438_s_at M65292_s_at M31551 s at M34516 r at M31627_at M31642_at M59465_at M61853_at M63835_at M64082_at M64929_at M69177_at M76482_at M34057_at M34309_at M37721_at M57710_at M61906_at M64347_at M69181_at M32011_at M32402 at M33764_at M33882 at M34423_at M35878 at M36341_at M37766 at M62982 at M63256 at M30818 at M31994_at M55542 at M61855_at

"M87789, class A, 20 probes, 20 in M87789 1021-1512, Human (hybridoma H210) anti-hepatitis A IgG variable region, constant region, complementarity-

"M86699, class A, 20 probes, 20 in M86699 3355-3787, Human kinase (TTK) mRNA, complete cds"

determining regions mRNA, complete cds"

M86699 at

FIGURE 7F

(GA733-2) mRNA"

M93221_at

M93056_at M93426 at

M96740 at

M93036 at

"M93056, class A, 20 probes, 20 in M93056 859-1273, Human mononcyte/neutrophil elastase inhibitor mRNA sequence" "M93221, class A, 20 probes, 20 in M93221mRNA 4618-5110, Human macrophage mannose receptor (MRC1) gene"

M83186_at "M83186, class A, 20 probes, 20 in M83186 103-316, Human cytochrome c oxidase subunit VIIa (COX7A) muscle isoform mRNA, complete cds" M83667_ma1_s_at "M83667, class A, 20 probes, 20 in M83667mRNA 713-1143, Human NF-IL6-beta protein mRNA, complete cds" M83822_at "M83822_at "M8

Janet A. Warrington et al. Filed: September 10, 2001 Applicants: USSN: 09/950,016

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28 State Street, 28th Floor, Boston, MA 02109
Attorney Docket No. 03848-00093 **SHEET 16 OF 21**

"M88458, class A, 20 probes, 20 in M88458 585-1095, Human ELP-1 mRNA sequence" "M93036, class A, 20 probes, 18 in M93036mRNA 987-1353. 2 in reverseSequence, 527-545, Human (clone 21726) carcinoma-associated antigen GA733-2

"M93426, class A, 20 probes, 20 in M93426 7455-7845, Human protein tyrosine phosphatase zeta-polypeptide (PTPRZ) mRNA, complete cds." M96740, class A, 20 probes, 20 in M96740 2014-2476, Human NSCL-2 gene sequence." M97935, class A, 20 probes, 20 in M97935 3412-3886, Human transcription factor ISGF-3 mRNA sequence." M97936, class A, 20 probes, 20 in M97936 2354-2564, Human transcription factor ISGF-3 mRNA sequence." M98447, class A, 20 probes, 20 in M98447mRNA 2256-2670, H.sapiens keratinocyte transglutaminase gene, complete cds." M98776, class A, 20 probes, 20 in M98776mRNA 1864-2266, Human keratin 1 gene, complete cds." "S45630, class A, 20 probes, 20 in S45630 108-612, alpha B-crystallin=Rosenthal fiber component [human, glioma cell line, mRNA, 691 nt]" M98447 mal at M98776_ma1_at M97935 s at M97936_at

'S62539, class A, 20 probes, 20 in S62539 5366-5756, insulin receptor substrate-1 [human, skeletal muscle, mRNA, 5828 nt]" "S54005, class A, 20 probes, 20 in S54005 2-197, thymosin beta-10 [human, metastatic melanoma cell line, mRNA, 453 nt]" "S59049, class A, 20 probes, 20 in S59049 786-1314, BL34=B cell activation gene [human, mRNA, 1398 nt]" S54005_s_at S59049_at S45630 at S62539_at

'S69232, class A, 20 probes, 20 in S69232 1584-1992, electron transfer flavoprotein-ubiquinone oxidoreductase [human, fetal liver, mRNA, 2124 nt]" 'S68805, class A, 20 probes, 20 in S68805 1972-2305, L-arginine:glycine amidinotransferase [human, kidney carcinoma cells, mRNA, 2330 nt]" "S67156, class A, 20 probes, 20 in S67156 876-1368, ASP=aspartoacylase [human, kidney, mRNA, 1435 nt]" S68805_at S69232_at S67156_at

S73591, class A, 20 probes, 20 in S73591 2169-2649, brain-expressed HHCPA78 homolog [human, HL-60 acute promyelocytic leukemia cells, mRNA, 2704 S73591_at

S74017 at

"S74728, class A, 20 probes, 20 in S74728 1245-1773, antiquitin=26g turgor protein homolog [human, kidney, mRNA, 1809 nt]" "S78187, class A, 20 probes, 20 in S78187 2548-3064, CDC25Hu2=cdc25+ homolog [human, mRNA, 3118 nt]" "S78569, class A, 20 probes, 20 in S78569 5723-6161, laminin alpha 4 chain [human, fetal lung, mRNA, 6204 nt]" mRNA, 2304 nt]" S74728_at S78187_at S78569_at

'S74017, class A, 20 probes, 20 in S74017 1721-2213, Nrf2=NF-E2-like basic leucine zipper transcriptional activator [human, hemin-induced K562 cells,

"S82597, class A, 20 probes, 20 in S82597mRNA 9-507, Description: UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase gene extracted from UDP-GalNAc.polypeptide N-acetylgalactosaminyltransferase/GalNAc-transferase {3' region, exon 11} [human, placent" S82597_ma1_s_at

"U02020, class C, 20 probes, 20 in all U02020 1985-2352, Human pre-B cell enhancing factor (PBEF) mRNA, complete cds"
"U02556, class A, 20 probes, 20 in U02556 1579-2101, Human RP3 mRNA, complete cds"
"U03272, class A, 20 probes, 20 in U03272 9619-10081, Human fibrillin-2 mRNA, complete cds"
"U04898, class A, 20 probes, 20 in U04898 1421-1877, Human orphan hormone nuclear receptor RORalpha2 mRNA, complete cds"
"U05861, class B, 20 probes, 15 in U05861exon 50-243: 5 not in GB record, Human hepatic dihydrodiol dehydrogenase gene" J02556 at J03272 at U02020 at

"U06643, class A, 19 probes, 19 in U06643 71-463, Human keratinocyte lectin 14 (HKL-14) mRNA, complete cds." "U07919, class A, 20 probes, 20 in U07919 2973-3399, Human aldehyde dehydrogenase 6 mRNA, complete cds" 106643 s_at J07919 at 104898_at J05861 at

"U09278, class A, 20 probes, 20 in U09278 2285-2735, Human fibroblast activation protein mRNA, complete cds" "U09578, class A, 20 probes, 20 in U09578 2012-2456, Human MAPKAP kinase (3pK) mRNA, complete cds"

(617) 720-9600 **SHEET 17 OF 21**

"U12767, class A, 20 probes, 20 in U12767 4598-4922, Human mitogen induced nuclear orphan receptor (MINOR) mRNA, complete cds"
"U13737, class A, 20 probes, 20 in U13737 2046-2556, Human cysteine protein-A (CENP-A) mRNA, complete cds"
"U14518, class A, 20 probes, 20 in U14970 122-656, Human ribosomal protein S5 mRNA, complete cds"
"U15932, class A, 20 probes, 20 in U15932 1928-2294, Human dual-specificity protein phosphatase mRNA, complete cds"
"U15936, class A, 20 probes, 20 in U1503C 1012-656, Human chondroitin sulfate proteoglycan versican V0 splice-variant precursor peptide mRNA, "U16799, class A, 20 probes, 20 in U16799 865-1419, Human Na,K-ATPase beta-1 subunit mRNA, complete cds" "U17077, class A, 20 probes, 20 in U17077 1716-2190, Human BENE mRNA, partial cds"

"U18062, class A, 20 probes, 20 in U18062 1678-2152, Human TFIID subunit TAFII55 (TAFII55) mRNA, complete cds" "U18934, class A, 20 probes, 20 in U18934 4229-4311, Human receptor tyrosine kinase (DTK) mRNA, complete cds"

"U20158, class A, 20 probes, 20 in U20158 1551-1911, Human 76 kDa tyrosine phosphoprotein SLP-76 mRNA, complete cds" "U20758, class A, 20 probes, 20 in U20758mRNA 885-1437, Human osteopontin gene, complete cds"

"U21128, class A, 20 probes, 20 in U21128 1254-1632, Human lumican mRNA, complete cds"
"U23942, class A, 20 probes, 20 in U23942 2811-3129, Human lanosterol 14-demethylase cytochrome P450 (CYP51) mRNA, complete cds"
"U24166, class A, 20 probes, 20 in U24166 2107-2395, Human EB1 mRNA, complete cds"

at

U20758 mal

U18934_at U20158_at

complete cds"

U16306 at

U14970 at U15932 at U16799_s_at

U17077_at U18062_at

U21128_at U23942_at

"U24577, class A, 20 probes, 20 in U24577 1182-1512, Human LDL-phospholipase A2 mRNA, complete cds"
"U25182, class A, 20 probes, 20 in U25182 350-860, Human antioxidant enzyme AOE37-2 mRNA, complete cds"
"U26312, class A, 20 probes, 20 in U26312 166-686, Human heterochromatin protein HP1Hs-gamma mRNA, complete cds"
"U27326, class A, 20 probes, 20 in U27326 1666-2123, Human alpha (1,3/1,4) fucosyltransferase (FUT3) mRNA, major transcript I, complete cds" U26312_s_at U24166_at U24577_at U25182_at

"U27333, class C, 9 probes, 9 in all_U27333 2701-2753, Human alpha (1,3) fucosyltransferase (FUT6) mRNA, major transcript I, complete cds, Human alpha J27326_s_at U27333_s_at

"U28488, class A, 20 probes, 20 in U28488 1344-1847, Human putative G protein-coupled receptor (AZ3B) mRNA, complete cds" 1,3) fucosyltransferase (FUT6) mRNA, major transcript I, complete cds" J28488 s at

"U31201, class A, 20 probes, 20 in U31201mRNA 4592-5106, Human laminin gamma2 chain gene (LAMC2), Human laminin gamma2 chain gene (LAMC2)' "U31556, class A, 20 probes, 20 in U31556 1445-1679, Human transcription factor E2F-5 mRNA, complete cds" "U32849, class A, 20 probes, 20 in U32849 867-1383, Human Hou mRNA, complete cds" U31201_cds2_s_at U31556 at U32849 at

U37518 at J34252 at

"U34252, class A, 20 probes, 20 in U34252 2177-2579, Human gamma-aminobutyraldehyde dehydrogenase mRNA, complete cds"
"U37518, class A, 20 probes, 20 in U37518 1162-1390, Human TNF-related apoptosis inducing ligand TRAIL mRNA, complete cds"
"U37519, class A, 20 probes, 20 in U37519 2304-2784, Human aldehyde dehydrogenase (ALDH8) mRNA, complete cds"
"U38545, class A, 20 probes, 20 in U38545 3056-3578, Human ARF-activated phosphatidylcholine-specific phospholipase D1a (hPLD1) mRNA, complete U37519_at U38545_at

"U41060, class A, 20 probes, 20 in U41060 2936-3416, Human breast cancer, estrogen regulated LIV-1 protein (LIV-1) mRNA, partial cds" "U39318, class A, 20 probes, 20 in U39318 159-675, Human E2 ubiquitin conjugating enzyme UbcH5C (UBCH5C) mRNA, complete cds" "U40622, class A, 20 probes, 20 in U40622 999-1449, Human XRCC4 mRNA, complete cds" U39318_at J41060 at J40622 at

"U43944, class A, 20 probes, 20 in U43944 1705-1978, Human breast cancer cytosolic NADP(+)-dependent malic enzyme mRNA, partial cds" U46499_at "U46499, class C, 20 probes, 20 not in GB record, Human microsomal glutathione transferase (GST12) gene, 5' sequence"
U46689_at "U46689, class A, 20 probes, 20 in U46689 3317-3863, Human microsomal aldehyde dehydrogenase (ALD10) mRNA, complete cds"
U46692_mal_at "U46692, class A, 20 probes, 20 in U46692mRNA 84-480, Human cystatin B gene, complete cds"
U48705_mal_s_at "U48705, class A, 20 probes, 20 in U48705mRNA 3326-3867, Human receptor tyrosine kinase DDR gene, complete cds" J43944 at

20 probes, 20 in U49114 2196-2700, Human prohormone convertase 5 precursor (PC5) mRNA, partial cds"

FIGURE 7G

U12767_at

U13737 at U14518 at

"U09770, class A, 20 probes, 20 in U09770 61-391, Human cysteine-rich heart protein (hCRHP) mRNA, complete cds"

"U55206, class A, 20 probes, 18 in U55206 790-1222: 2 not in GB record, Human gamma-glutamyl hydrolase (hGH) mRNA, complete cds"

"U56814, class A, 20 probes, 20 in U56814 495-957, Human DNAse I homologous protein (DHP2) mRNA, complete cds"

"U57721, class A, 20 probes, 20 in U57721 1126-1588, Human L-kynurenine hydrolase mRNA, complete cds"

"U63743, class A, 20 probes, 20 in U63743 2187-2715, Human mitotic centromere-associated kinesin mRNA, complete cds."

"U62800, class A, 20 probes, 20 in U62800 181-535, Human cystatin M (CST6) mRNA, complete cds"

"U60808, class A, 20 probes, 20 in U60808 1423-2000, Human CDP-diacylglycerol synthase (CDS) mRNA, complete cds."

"U60115, class A, 20 probes, 20 in U60115 1863-2211, Human skeletal muscle LIM-protein SLIM1 mRNA, complete cds"

"U60060, class A, 20 probes, 20 in U60060 1090-1540, Human FEZ1 mRNA, complete cds"

U59877_s_at

U57721_at

J56814 at

U53506 at

J53446_at U55206 at

160808 s at U60060_at U60115_at

J62800 at 163743_at J65932 at J67122 s at

J67784 at J67963 at J71207_at

J72621 at

173377_at J73960 at 177604_at J78525 at J82130 at J85658 at J85707_at 188964 at J89942_at J90546 at J90902 at

J83115 at

J84573 at

J68142_at

J69961_at

"U59877, class A, 20 probes, 20 in U59877 295-750, Human Iow-Mr GTP-binding protein (RAB31) mRNA, complete cds"

U50648, class A, 20 probes, 20 in U50648mRNA 2211-2751, Human interferon-inducible RNA-dependent protein kinase (Pkr) gene"

'U53446, class A, 20 probes, 20 in U53446 2680-3220, Human mitogen-responsive phosphoprotein DOC-2 mRNA, complete cds'

U53506, class A, 20 probes, 20 in U53506 1344-1836, Human type II iodothyronine deiodinase mRNA, complete cds."

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Applicants:
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                                                                USSN: 09/950,016 Filed: September 10, 2001
Atty.: John P. Iwanicki, Reg. No. 34,628
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'U90546, class B, 12 probes, 12 in U90546 1301-1344, Human butyrophilin (BTF4) mRNA, complete cds, Human butyrophilin (BTF4) mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "V00536, class A, 20 probes, 20 in V00536mRNA 811-1135, IFNG gene extracted from Human immune interferon (IFN-gamma) gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "U83115, class A, 20 probes, 20 in U83115 6327-6753, Human non-lens beta gamma-crystallin like protein (AIM1) mRNA, partial cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "U96915, class A, 20 probes, 20 in U96915 165-693, Homo sapiens sin3 associated polypeptide p18 (SAP18) mRNA, complete cds."
                                                          "U67984, class A, 20 probes, 20 in U67784 1106-1640, Human orphan G protein-coupled receptor (RDC1) mRNA, partial cds" "U67963, class A, 20 probes, 20 in U67963 590-1148, Human lysophospholipase homolog (HU-K5) mRNA, complete cds" "U68142, class A, 20 probes, 20 in U69961 1565-1997, Human solurshin (RGS) mRNA, complete cds" "U169961, class A, 20 probes, 20 in U69961 1565-1997, Human solurshin (RGS) mRNA, complete cds" "U72621, class A, 20 probes, 20 in U72621 2581-3145, Human LOT1 mRNA, complete cds" "U7360, class A, 20 probes, 20 in U73377 3059-3363, Human ADP-ribosylation factor-like protein 4 mRNA, complete cds" "U73960, class A, 20 probes, 20 in U73960 566-1022, Human ADP-ribosylation factor-like protein 4 mRNA, complete cds" "U77604, class A, 20 probes, 20 in U77604 13-493, Human microsomal glutathione S-transferase (GST-II) mRNA, complete cds" "U78525, class A, 20 probes, 20 in U78525 2480-2942, Human eukaryotic translation initiation factor (eIF3) mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "U84573, class A, 20 probes, 20 in U84573 2882-3422, Homo sapiens lysyl hydroxylase isoform 2 (PLOD2) mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "U88707, class A, 20 probes, 20 in U88707 1922-2426, Human leukemogenic homolog protein (MEIS1) mRNA, complete cds" "U88964, class A, 20 probes, 20 in U88964 130-568, Human HEM45 mRNA, complete cds."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "U89942, class A, 20 probes, 20 in U89942 2867-3383, Human lysyl oxidase-related protein (WS9-14) mRNA, complete cds"
"U65932, class A, 20 probes, 20 in U65932 1244-1634, Human extracellular matrix protein 1 (ECM1) mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "U82130, class A, 20 probes, 20 in U82130 1151-1451, Human tumor susceptiblity protein (TSG101) mRNA, complete cds"
                                    "U67122; class A, 20 probes, 20 in U67122 469-728, Human ubiquitin-related protein SUMO-1 mRNA, complete cds."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "V00563, class A, 20 probes, 20 in V00563mRNA 19-127, Human gene for immunoglobulin mu, part of exon 8."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "U85658, class A, 20 probes, 20 in U85658 2310-2736, Human transcription factor ERF-1 mRNA, complete cds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "X01060, class C, 20 probes, 20 in all X01060 4427-4986, Human mRNA for transferrin receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "U90904, class A, 20 probes, 20 in U90904 1102-1342, Human clone 23773 mRNA sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'U90902, class A, 20 probes, 20 in U90902 939-1407, Human clone 23612 mRNA sequence"
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in all X02530 571-1118, Human mRNA for gamma-interferon inducible early response gene (with homology to platelet

"X02419, class A, 20 probes, 20 in X02419mRNA 1754-2210, H.sapiens uPA gene"

"X02530, class C,

s at

K02419_ma1

CO2530 at

oroteins)"

V00536_mal_at

700563 at X01060 at

196915_at

J90904 at

X02761, class C, 20 probes, 20 in all X02761 7082-7646, Human mRNA for fibronectin (FN precursor)"

Applicants: Janet A. Warrington et al. USSN: 09/950,016 Filed: September 10, 2001 Atty: John P. Iwanicki, Reg. No. 34,628 BANNER & WITCOFF, LTD. 28 State Street, 28th Floor, Boston, MA 02109 Attorney Docket No. 03848-00093 (617) 720-9600 **SHEET 19 OF 21**

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"X06948, class B, 20 probes, 12 in X06948cds 482-680: 8 in reverseSequence, 918-1146, Human mRNA for high affinity IgE receptor alpha-subunit (FCERI)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "X15414, class C, 20 probes, 20 in all_X15414 844-1349, Human mRNA for aldose reductase (EC 1.1.1.2)"
"X16354, class C, 20 probes, 20 in all_X16354 2895-3400, Human mRNA for transmembrane carcinoembryonic antigen BGPa (formerly TM1-CEA)"
"X16396, class C, 20 probes, 20 in all_X16396 1543-2102, Human mRNA for NAD-dependent methylene tetrahydrofolate dehydrogenase cyclohydrolase (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              X07438, class A, 19 probes, 19 in X07438exon#2 11-166, Human DNA for cellular retinol binding protein (CRBP) exons 3 and 4 /gb=X07438 /ntype=DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "X51441, class C, 8 probes, 8 in all X51441 55-90, Human mRNA for serum amyloid A (SAA) protein partial, clone pAS3-alpha, Human mRNA for serum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "X07695, class C, 20 probes, 20 in all_X07695 1175-1722, Human mRNA for cytokeratin 4 C-terminal region"

"X07696, class C, 20 probes, 20 in all_X07696 1300-1685, Human mRNA for cytokeratin 15"

"X07834, class C, 20 probes, 20 in all_X07834 515-1026, Human mRNA for manganese superoxide dismutase (EC 1.15.1.1)"

"X12451, class A, 20 probes, 20 in X12451mRNA 974-1496, Human mrRNA for pro-cathepsin L (major excreted protein MEP)"

"X13794, class A, 20 probes, 20 in X13794mRNA 713-1229, H.sapiens lactate dehydrogenase B gene exon 1 and 2 (EC 1.1.1.27) (and joined CDS)"

"X13839, class C, 20 probes, 20 in X14008mRNA 926-1433, Human lysozyme gene (EC 3.2.1.17)"

"X14008, class A, 20 probes, 20 in X14813 1077-1618, Human liver mRNA for 3-oxoacyl-CoA thiolase"

"X15183, class C, 20 probes, 20 in all_X15183 2479-2894, Human mRNA for 90-kDa heat-shock protein"

"X15183, class B, 20 probes, 10 in X15187cds 2089-2380: 10 in reverseSequence, 2521-2737, Human tral mRNA for human homologue of murine tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "X1662, class C, 20 probes, 20 in all_X16662 1399-1916, Human mRNA for vascular anticoagulant-beta (VAC-beta)"

"X17042, class C, 20 probes, 20 in all_X17042 689-1158, Human mRNA for hematopoetic proteoglycan core protein"

"X51408, class C, 20 probes, 20 in all_X51408 1626-2017, Human mRNA for n-chimaerin"

"X51420, class C, 20 probes, 20 in all_X51420 2264-2781, Human mRNA for tyrosinase-related protein"

"X51441, class B, 12 probes, 11 in X51441cds 28-65: 1 in reverseSequence, 228, Human mRNA for serum amyloid A (SAA) protein partial, clone pAS3-
                                                          "X04470, class B, 19 probes, 15 in X04470cds 24-374: 4 in reverseSequence, 408-495, Human mRNA for antileukoprotease (ALP) from cervix uterus"
X02875, class C, 20 probes, 20 in all X02875 158-628, Human mRNA (3'-fragment) for (2'-5') oligo A synthetase E (1,8 kb RNA)"
                                                                                                                    'X04602, class C, 20 probes, 20 in all_X04602 920-1086, Human mRNA for interleukin BSF-2 (B-cell differentiation factor)"
                                                                                                                                                                                                                                                                                                                                                                                                                    "X07109, class C, 20 probes, 20 in all_X07109 2732-3303, Human mRNA for protein kinase C (PKC) type beta II"
                                                                                                                                                                                                                                                                                           "X06700, class C, 20 probes, 20 in all X06700 1946-2466, Human mRNA 3' region for pro-alpha1 (III) collagen"
                                                                                                                                                                                                                                     "X05610, class C, 20 probes, 20 in all X05610 1701-2098, Human mRNA for type IV collagen alpha -2 chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "X51521, class C, 20 probes, 20 in all_X51521 2653-3026, Human mRNA for ezrin"
"X51801, class C, 20 probes, 20 in all_X51801 1415-1824, Human OP-1 mRNA for osteogenic protein"
"X52022, class A, 20 probes, 20 in X52022 9941-10349, H.sapiens RNA for type VI collagen alpha3 chain"
"X52426, class C, 20 probes, 20 in all_X52426 1139-1665, H.sapiens mRNA for cytokeratin 13"
"X53296, class C, 20 probes, 20 in all_X53296 1099-1657, H.sapiens mRNA for IRAP"
                                                                                                                                                                      "X05232, class C, 20 probes, 20 in all_X05232 1530-1771, Human mRNA for stromelysin"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          alpha, Human mRNA for serum amyloid A (SAA) protein partial, clone pAS3-alpha"
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X13794_ma1_at
X02875_s_at
                                                          X04470_s_at
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X51408_at
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X51801_at
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                                                                                                                                                                                   X05232 at
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"X54489, class A, 20 probes, 20 in X54489mRNA 660-1034, Human gene for melanoma growth stimulatory activity (MGSA)"

"X54867, class A, 20 probes, 20 in X54867mRNA 783-1293, Human mRNA for NKG2-A gene"

X53296_s_at X54489_ma1_at

X52426 s at

X52022 at

X54867_s_at

Janet A. Warrington et al. Filed: September 10, 2001

(617) 720-9600

Applicants. Valington et al. Valington e **SHEET 20 OF 21**

"X66534, class C, 20 probes, 20 in all_X66534 2622-2953, H.sapiens soluble guanylate cyclase large subunit mRNA"

"X67951, class B, 20 probes, 10 in X67951cds 312-576: 10 in reverseSequence, 642-888, H.sapiens mRNA for proliferation-associated gene (pag)" "X67098, class A, 20 probes, 20 in X67098exon#8 40-454, H. sapiens rTS alpha mRNA containing four open reading frames"

"X68277, class C, 20 probes, 20 in all X68277 1459-1952, H.sapiens CL 100 mRNA for protein tyrosine phosphatase"

X65965, class A, 18 probes, 18 in X65965exon#1-2 32-94, H.sapiens SOD-2 gene for manganese superoxide dismutase. /gb=X65965 /ntype=DNA

"X65614, class B, 20 probes, 10 in X65614cds 10-262: 10 in reverseSequence, 19-391, H.sapiens mRNA for calcium-binding protein S100P"

"X61970, class A, 20 probes, 17 in X61970cds 299-677: 3 in reverseSequence, 758-860, H.sapiens mRNA for macropain subunit zeta"

"X63629, class C, 20 probes, 20 in all X63629 2582-3126, H.sapiens mRNA for p cadherin"

"X64707, class C, 20 probes, 20 in all X64707 401-888, H.sapiens BBC1 mRNA"

X65965_s_at

X65614 at

X63629_at X64707_at

X61970_at

X61123_at

'annot=exon'

X66534_at X67098_at

X67951_at

"X59892, class C, 20 probes, 20 in all_X59892 2163-2542, H.sapiens mRNA for IFN-inducible gamma2 protein"

"X61123, class A, 20 probes, 20 in X61123mRNA 1212-1608, Human BTG1 mRNA"

"X57522, class C, 20 probes, 20 in all_X57522 2229-2788, H.sapiens RING4 cDNA"
"X57579, class A, 20 probes, 18 in X57579exon 545-840: 2 in reverseSequence, 1392-1555, H.sapiens activin beta-A subunit (exon 2)"
"X59770, class A, 20 probes, 20 in X59770mRNA 685-1213, H.sapiens IL-1R2 mRNA for type II interleukin-I receptor, (cell line CB23)"

X57579_s_at

X54941_at

X56654 at

X59892_at

X59770 at

"X54941, class C, 20 probes, 20 in all_X54941 194-687, H. sapiens ckshs1 mRNA for Cks1 protein homologue" X54925, class C, 20 probes, 20 in all X54925 1537-1904, H.sapiens mRNA for type I interstitial collagenase"

'X56654, class A, 20 probes, 20 in X56654mRNA 3221-3641, Human DSG1 mRNA for desmoglein type 1"

"X68742, class C, 20 probes, 20 in all_X68742 2942-3423, H.sapiens mRNA for integrin, alpha subunit" "X69141, class C, 20 probes, 20 in all X69141 1444-1997, H.sapiens mRNA for squalene synthase"

"X70476, class A, 20 probes, 20 in X70476mRNA 2526-3024, H.sapiens subunit of coatomer complex" X68277_at X68742_at X69141 at X70476 at

"X76029, class B, 20 probes, 14 in X76029cds 141-453. 6 in reverseSequence, 636-756, H.sapiens mRNA for neuromedin U" "X75252, class C, 20 probes, 20 in all X75252 1083-1408, H.sapiens phosphatidylethanolamine binding protein mRNA" X75252 at

"X76180, class C, 20 probes, 20 in all_X76180 2760-3115, H.sapiens mRNA for lung amiloride sensitive Na+ channel protein" "X76223, class A, 20 probes, 20 in X76223exon 2-540, H.sapiens MAL gene exon 4. K76223 s at X76029_at X76180_at

"X76342, class C, 20 probes, 20 in all X76342 1484-2019, H.sapiens ADH7 mRNA" "X76534, class C, 20 probes, 20 in all X76534 2145-2614, H.sapiens NMB mRNA" (76342_at K76534_at

"X76648, class C, 20 probes, 20 in all X76648 338-777, H.sapiens mRNA for glutaredoxin"
"X76732, class B, 20 probes, 12 in X76732cds 975-1221: 6 in reverseSequence, 1464-1518: 2 not in GB record, H.sapiens NEFA protein mRNA, complete cds <76648_at</p> <76732 at

"X77584, class B, 20 probes, 14 in X77584cds 5-215: 6 in reverseSequence, 43-481, H.sapiens mRNA for ATL-derived factor/thiredoxin' "X78549, class C, 20 probes, 20 in all X78549 1912-2186, H.sapiens brk mRNA for tyrosine kinase" X77584 at X78549 at

leucine zipper protein, calcium-binding EF-hand protein, from acute lymphoblastic leukemia ce"

DNA-binding

"X78932, class C, 20 probes, 20 in all_X78932 421-976, H.sapiens HZF9 mRNA for zinc finger protein" "X82153, class C, 20 probes, 20 in all_X82153 1128-1615, H.sapiens mRNA for cathepsin O" "X78565, class C, 20 probes, 20 in all_X78565 6971-7512, H.sapiens mRNA for tenascin-C, 7560bp" K78932 at (82153 at X78565 at

"X82693, class C, 20 probes, 20 in all X82693 134-681, H.sapiens mRNA for E48 antigen" "X82200, class C, 20 probes, 20 in all_X82200 2236-2801, H.sapiens Staf50 mRNA" "X85116, class C, 20 probes, 20 not in GB record, H.sapiens epb72 gene exon 1" (85116 mal X82200 at (82693 at

"X85750, class C, 20 probes, 20 in all X85750 1935-2500, H.sapiens mRNA for transcript associated with monocyte to macrophage differentiation" "X87212, class C, 20 probes, 20 in all_X87212 1273-1772, H.sapiens mRNA for cathepsin C" s at X85750_at X87212_at

20 probes, 20 in all_X87241 14353-14738, H.sapiens mRNA for hFat protein" X91911_s_at

X91911, class A, 20 probes, 18 in $\overline{X91}$ 911cds 321-711: 2 in reverseSequence, 912-950, H.sapiens mRNA for RTVP-1 protein"

FIGURE 7J

X95240, class C, 20 probes, 20 in all_X95240 1487-2056, H.sapiens mRNA for cysteine-rich secretory protein-3"

FIGURE 7K

X95240 s at

X96719_at

X98311 at

700787_s_at

700815_at

700264_at

Y07759_at Y07867_at Y07909_at

Y09267_at

Y09616 at Z15108_at

Applicants: USSN: 09/950,016

Janet A. Warrington et al. Filed: September 10, 2001

Atty.: John P. Iwanicki, Reg. No. 34,628

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X96719, class A, 20 probes, 16 in X96719cds 86-398: 4 in reverseSequence, 674-710, H.sapiens mRNA for AICL (activation-induced C-type lectin)" "Z29574, class A, 20 probes, 17 in Z29574exon#3 1-373: 1 in reverseSequence, 3141: 2 not in GB record, Homo sapiens gene for BCMA peptide" "Y09267, class A, 20 probes, 20 in Y09267 1148-1664, H.sapiens mRNA for flavin-containing monooxygenase 2 /gb=Y09267 /ntype=RNA" "Z23090, class A, 20 probes, 17 in Z23090cds 277-589. 3 in reverseSequence, 1086-1098, H.sapiens mRNA for 28 kDa heat shock protein" 'Y00787, class C, 20 probes, 20 in all_Y00787 1314-1469, Human mRNA for MDNCF (monocyte-derived neutrophil chemotactic factor)" 'Y00815, class C, 20 probes, 20 in all_Y00815 7107-7684, Human mRNA for LCA-homolog. LAR protein (leukocyte antigen related)" "Z47087, class C, 20 probes, 20 in all Z47087 1065-1438, H.sapiens mRNA for RNA polymerase II elongation factor-like protein" 'Y07867, class B, 20 probes, 11 in Y07867cds 643-787. 9 in reverseSequence, 1087-1237, H.sapiens mRNA for Pirin, isolate 1" 20 in all_Y00264 2984-3321, Human mRNA for amyloid A4 precursor of Alzheimer disease" 'X98311, class C, 20 probes, 20 in all X98311 1901-2274, H.sapiens mRNA for carcinoembryonic antigen, CGMZ "Z24727, class C, 20 probes, 20 in all_Z24727 1355-1569, H.sapiens tropomyosin isoform mRNA, complete CDS" "Y07909, class C, 20 probes, 20 in all Y07909 2383-2774, H.sapiens mRNA for Progression Associated Protein" "Z26491, class A, 20 probes, 20 in Z26491exon#5 388-430, H.sapiens gene for catechol O-methyltransferase" "Y09616, class C, 20 probes, 20 in all_Y09616 1443-1948, H.sapiens mRNA for putative carboxylesterase" Z15108, class C, 20 probes, 20 in all_Z15108 1535-2130, H.sapiens mRNA for protein kinase C zeta" "Y07759, class C, 20 probes, 20 in all Y07759 5956-6377, H. sapiens mRNA for myosin heavy chain 12" "Z29083, class C, 20 probes, 20 in all_Z29083 1644-2023, H.sapiens 5T4 gene for 5T4 Oncofetal antigen "Z19574, class A, 20 probes, 20 in Z19574mRNA 1039-1479, H.sapiens gene for cytokeratin 17" 'Y00264, class C, 20 probes,

a

19574_mal

723090 at

Z24727_at Z26491_s_at Z29083_at

Z47087_at Z29574_at

748042 at

"Z74616, class C, 20 probes, 20 in all Z74616 4470-4992, H.sapiens mRNA for prepro-alpha2(I) collagen."
"Z84721, class C, 20 probes, 20 in all Z84721 30317-34635, Human DNA sequence from cosmid GG1 from a contig from the tip of the short arm of "Z49148, class A, 20 probes, 16 in Z49148cds 2-418: 4 in reverseSequence, 18-589, H.sapiens mRNA for ribosomal protein L29" chromosome 16, spanning 2Mb of 16p13.3 Contains alpha and zeta globin genes and ESTs., Human DNA sequence from cosm "Z49194, class A, 20 probes, 20 in Z49194exon#5 1962-2256, H.sapiens mRNA for oct-binding factor" Ħ Z84721 cds2 Z74616 s at 249148 s at 749194 at

"Z48042, class C, 20 probes, 20 in all Z48042 2679-3232, H.sapiens mRNA encoding GPI-anchored protein p137"